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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,449	08/13/2001	James Lucas	3552-0107P	4275

2292 7590 03/26/2007
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EXAMINER

CHORBAJI, MONZER R

ART UNIT	PAPER NUMBER
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1744

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/26/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/26/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 09/831,449	Applicant(s) LUCAS ET AL.	
	Examiner MONZER R. CHORBAJI	Art Unit 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 48-65, 68-70 and 81-89 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 48-65, 68-70 and 81-89 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This final action is in response to the amendment received on 12/18/2006

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 48-55, 59-65, 68-71 and 85 are rejected under 35 U.S.C. 102(b) as being anticipated by the English translation of Masaaki (JP 61-046290).

Regarding claims 48 and 85, Masaaki discloses an apparatus for sterilizing city water (page 3) that includes the following: UV lamp (figure 4:13, 16, 17, 18 and pages 8-9), microwave energy source (figure 4:21), a waveguide being UV transparent and wholly surrounding the UV lamp (figure 4:32 and page 11), waveguide is provided with a blocking end flange (figure 4:20) and a housing having inlet and outlet (figure 4:1, 5 and 6). Note that Masaaki waveguide is capable of guiding microwave energy originated from the microwave source to the UV lamp by enabling UV light to pass through it. See MPEP 2114.

Regarding claims 49-55, 59-65 and 68-71, Masaaki discloses the following: UV lamp has no electrode (page 10), element in vapor form and being mercury (page 8), the apparatus has a wavelength of 254 nm (page 12), waveguide controls the flow of microwave energy (waveguide 32 of figure 4 controls the passage of UV light through its walls), waveguide blocks the flow of microwave energy (the bottom surface of the

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waveguide 32 in touch with wall 3, blocks the flow of microwave energy), waveguide is made up of UV-transparent plastic material (page 11), UV lamp has an elongated form (tube 17 in figure 4 has an elongated shape), transparent waveguide has a cylindrical form (tube 32 in figure 4 has a cylindrical shape), UV lamp (figure 4:13, 16, 17 and 18) has an operating temperature of less than 70 degrees Celsius (page 12), microwave energy source includes a magnetron (figure 4:21 and page 8), a pathguide that defines a linear or non-linear paths (figure 4:22 and 24), fluid includes water (bottom of page 12 to top of page 13), the use of a pump (figure 4:35) and UV source sterilizes sewage (page 13).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 56-58, 81-84 and 86-89 are rejected under 35 U.S.C. 103(a) as being unpatentable over the english translation of Masaaki (JP 61-046290) as applied to claim 48 and further in view of Spero et al (U.S.P.N. 3,911,318).

Regarding claims 56-58, 81-84 and 86-89, Masaaki does not specifically teach that the waveguide includes a quartz material and a conducting material mesh provided to the inner surface of the quartz surface or that the waveguide includes a cooper conducting mesh. Spero teaches that the waveguide includes quartz material (figure 2:31) and a conducting material (figure 2, 25 and col.9, lines 24-31) mesh provided on the inner surface of the quartz surface and that the waveguide includes a cooper conducting mesh (figure 2, 25, col.9, line 27 and col.10, lines 7-16). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Masaaki device by surrounding the waveguide with a copper mesh as taught by Spero since the copper mesh serves to prevent microwave radiation leakage outside its cylindrical volume (Spero, col.9, lines 27-29).

Response to Arguments

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7. Applicant's arguments filed on 12/18/2006 have been fully considered but they are not persuasive.

On pages 9-14 of the Remarks section, Applicant argues that the waveguide 22, the coaxial cable convertor 23, the coaxial cable 24 and the rod-shaped antenna 13 are the only elements that Masaaki considers to have waveguide function, that Masaaki's UV lamp is represented only by gas discharge chamber 18 formed within the airtight chamber 15 as defined by inner and outer pipes 16-17 respectively, that the microwave is guided from the magnetron 21 via the waveguide represented by the structures 22, 23, 24 and 13 only to the UV lamp represented by the structures 18, 15, 16 and 17, that Masaaki's waveguide does not wholly surround the UV lamp, that nowhere does Masaaki suggest that outermost pipe 32 is a waveguide and that Masaaki describes the outermost pipe 32 only as a component of a water circulation system. The specification teaches, for example, on page 3, lines 18-21 that the outer enclosure surrounding the UV lamp is a waveguide. The same concept is repeated also on pages 4-5. Based on Applicant's description of a waveguide, then outermost pipe 32 is UV transparent and wholly surrounds the UV lamp (figure 4:32 and page 11). The examiner is not limited when evaluating a reference only to what inventors name such structures as long as other structures within the reference function as a waveguide and satisfies the limitations of a claim.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

9. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R. CHORBAJI whose telephone number is (571) 272-1271. The examiner can normally be reached on M-F 9:00-5:30.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GLADYS J. CORCORAN can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MRC



GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER